

CLAIMS:

1. A record carrier (1) having a first area (3) for storing information, and a second area (4), the second area comprising an integrated circuit (4'), characterized in that transmitting means (11, 15) for transmitting additional information and receiving means (10, 12) for receiving a power supply signal for power supply of the integrated circuit are integrated in the integrated circuit, the receiving means comprising a light-sensitive sensor, for example, a photodiode (12).

2. A record carrier as claimed in claim 1, characterized in that the receiving means (10, 12) are also adapted to receive additional information.

3. A record carrier as claimed in claim 1 or 2, characterized in that the integrated circuit (4') is contactlessly readable.

4. A record carrier as claimed in claim 1, 2 or 3, characterized in that the integrated circuit (4') comprises means (12) for generating a first communication channel operating at a first frequency, and means (15) for generating a second communication channel operating at a second frequency, the first frequency being substantially unequal to the second frequency.

5. A record carrier as claimed in claim 1, 2, 3 or 4, characterized in that the additional information comprises a key for scrambling and/or descrambling the information.

6. A record carrier as claimed in claim 5, characterized in that the integrated circuit comprises a memory in which the additional information is stored.

7. A record carrier as claimed in claim 1, characterized in that the record carrier is a pre-recorded record carrier.

8. A record carrier as claimed in claim 4, characterized in that the first frequency is in an optical frequency range and the second frequency is in a radio frequency range.

9. A method of manufacturing a record carrier (1), the method comprising the steps of:

- a. receiving information,
- b. providing information on the record carrier (1),
- c. providing an integrated circuit (4') on the record carrier (1), the integrated circuit comprising transmitting means (11, 15) for transmitting additional information and receiving means (10, 12) for receiving a power supply signal for power supply of the integrated circuit, the receiving means comprising a light-sensitive sensor, for example, a photodiode (12).

10. A method as claimed in claim 9, characterized in that the receiving means (10, 12) are also adapted to receive additional information.

11. A method as claimed in claim 9 or 10, characterized in that the method comprises the further step of:

- d. providing additional information in the integrated circuit.

12. A system for protecting information on a record carrier (1), the system comprising a device (6) for reading and/or writing the information on the record carrier, and the record carrier (1), the device comprising transmitting means (7) and receiving means (16) for transmitting and receiving additional information, the record carrier comprising transmitting means (11, 15) for transmitting additional information and receiving means (10, 12) for receiving a power supply signal for power supply of the integrated circuit, characterized in that the transmitting means (11, 15) and receiving means (10, 12) of the record carrier are integrated in an integrated circuit (4'), and the receiving means (10, 12) of the record carrier comprise a light-sensitive sensor, for example, a photodiode (12).

13. A system as claimed in claim 12, characterized in that the receiving means (10, 12) of the record carrier are also adapted to receive additional information.

14. A system as claimed in claim 12 or 13, characterized in that the integrated circuit is contactlessly readable.

15. A system as claimed in claim 12, 13 or 14, characterized in that the integrated circuit (4') comprises means (12) for generating a first communication channel operating at a first frequency and means (15) for generating a second communication channel operating at a second frequency, the first frequency being substantially unequal to the second frequency.

16. A system as claimed in claim 15, characterized in that the device comprises an optical transmitter, for example, a LED (7), and a radio receiver (17), and the integrated circuit (4') comprises a light-sensitive sensor, for example, a photodiode (12), and a radio transmitter (11).

17. A system as claimed in claim 15 or 16, characterized in that the first communication channel is adapted for power supply of the integrated circuit and for data transmission.

18. A system as claimed in claim 12, characterized in that the additional information comprises an encryption algorithm for safety protection of the communication channels.

19. A device for reading a record carrier (1) as claimed in any one of claims 1 to 8, which device (6) comprises detection means (42) for detecting optically readable signs representing the information, and receiving means (16) and transmitting means (7) for reading and receiving additional information stored in the integrated circuit (4').

20. A device as claimed in claim 19, characterized in that the device comprises means (7) for generating a first communication channel operating at a first frequency, and means (16) for generating a second communication channel operating at a second frequency, the first frequency being substantially unequal to the second frequency.

21. A device as claimed in claim 19 or 20, wherein the device comprises write means for providing optically readable signs on a recordable record carrier.

22. A device for reading additional information present in the integrated circuit on the record carrier as claimed in any one of claims 1 to 8, wherein the device comprises receiving means (16) and transmitting means (7) for reading and receiving additional information stored in the integrated circuit (4').

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23. An integrated circuit comprising transmitting means (11, 15) for transmitting additional information, and receiving means (10, 12) for receiving a power supply signal for power supply of the integrated circuit, the receiving means comprising a light-sensitive sensor, for example, a photodiode (12).

24. An integrated circuit as claimed in claim 23, wherein the receiving means (10, 12) are also adapted to receive additional information.

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The figure shows a cross-sectional view of a semiconductor device. It features a substrate with a series of layers and structures. A central region is labeled with the number 10, indicating a specific component or layer within the device structure.